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Federal Personal Income Taxes: Liabilities and Payments, 1977–81

THIS article presents quarterly Federal personal income tax liabilities for 1977–81 and explains the sources of the differences between this series and the payment series included in the national income and product accounts (NIPA's). A technical note describes briefly the methodologies underlying the two series, both of which are prepared by BEA. Estimates of these series for 1949–76 appeared in the May 1978 SURVEY OF CURRENT BUSINESS; subsequently the payment series was revised as part of the comprehensive revisions of the NIPA's completed in 1980. Estimates for 1977 and 1978 for both the payment and liability series presented in the March 1980 SURVEY are superceded by those in this article.

There are different timing bases for recording personal taxes. In the NIPA's, personal taxes are recorded on a payment basis, that is, at the time the payments are made by individuals. In the *Monthly Treasury Statement*, published by the Treasury Department, these taxes are recorded on a cash collection basis. BEA also estimates these taxes on a liability basis, that is, when taxpayers earn their income. If one assumes that consumers base their expenditure on income net of tax liabilities rather than on income net of tax payments, it can be argued that the liability basis is more appropriate than either the payment or the collection basis for the analysis of the impact of taxes on consumers and on fiscal policy.

In general, the payment series differs from the liability series for the following reasons: (1) payment of nonwithheld taxes—quarterly declarations and final payments—and the payment of refunds by the Treasury do not coincide with liabilities; (2) changes in withholding rates do not always occur at the same time as the change in liability, and (3) graduated withholding rates can result in changes in taxes withheld different from those in changes in liabilities if the income flow or deductions change during the tax year.

Table 1 shows Federal personal income tax liabilities and payments for 1977–81 and the excess of liabilities over payments. In what follows, the factors affecting these series are explained for 1977–81.

1977.—Three provisions of the Tax Reduction and Simplification Act of 1977 (TRSA) significantly reduced tax liabilities for 1977: (1) a zero bracket amount was introduced to replace the standard deduction in effect for 1976 and earlier years, (2) the general tax credit was extended to cover exemptions for age and blindness, and (3) a new jobs credit was enacted to encourage businesses to hire additional workers.

On a liability basis, these provisions became effective January 1, 1977, but tax payments were not reduced until withholding rates were reduced on June 1, 1977. As a result, tax payments exceeded liabilities in the first half of 1977 by about $4.5 billion. In the second half of 1977, the excess of

Table 1.—Federal Personal Income Tax Liabilities and Payments

[Billions of dollars, quarters at seasonally adjusted annual rates]

Year and quarter	Personal income taxes[1]			Personal income[2]	Taxable income[3]
	Liability basis	Payment basis	Excess of liability basis over payment basis		
1976	146.5	141.5	4.9	1,391.2	674.9
1977	161.2	162.7	−1.5	1,540.4	839.0
1978	190.1	189.6	.5	1,732.7	1,062.2
1979	216.2	224.8	−8.6	1,951.2	1,157.2
1980	251.9	250.7	1.2	2,160.4	1,280.0
1981	285.5	290.8	−5.3	2,415.8	
1976: I	139.0	132.6	6.4	1,348.6	647.2
II	143.1	138.6	4.5	1,373.7	666.0
III	147.4	144.7	2.7	1,404.2	682.0
IV	153.8	150.3	3.5	1,438.4	704.8
1977: I	150.3	155.4	−5.1	1,478.9	804.1
II	157.3	161.3	−4.0	1,514.5	833.0
III	164.5	162.9	1.6	1,561.1	852.7
IV	173.1	171.3	1.8	1,609.2	866.0
1978: I	172.0	173.1	−1.1	1,644.9	992.5
II	188.2	184.9	3.3	1,702.7	1,046.9
III	196.0	195.5	.5	1,761.8	1,085.2
IV	205.8	206.2	−.4	1,821.3	1,124.2
1979: I	197.4	211.0	−13.6	1,871.8	1,096.6
II	209.0	219.6	−10.6	1,916.6	1,133.1
III	221.6	229.9	−8.3	1,961.8	1,176.1
IV	236.8	238.8	−2.0	2,054.4	1,224.2
1980: I	230.0	228.0	2.0	2,096.8	1,240.9
II	242.0	244.5	−2.5	2,100.6	1,247.4
III	264.4	262.9	1.5	2,185.3	1,288.1
IV	271.3	267.5	3.8	2,260.0	1,343.6
1981: I	277.9	279.7	−1.8	2,330.0	
II	284.7	289.8	−5.1	2,380.6	
III	292.5	300.6	−8.1	2,458.2	
IV	286.8	293.2	−6.4	2,494.4	

1. The liability series for 1949–76 appears in the May 1978 SURVEY OF CURRENT BUSINESS; the payment series appears in table 3.4 in *National Income and Product Accounts of the U.S., 1929–76: Statistical Tables*.
2. This series appears in national income and product accounts table 2.1.
3. Annual totals appear in *Statistics of Income: Individual Income Tax Returns*.

liabilities over payments was about $1.5 billion, reflecting the June 1 reduction in withholding rates and continued growth in personal income.

1978.—The excess of liabilities over payments in 1978 was due to heavy refunds resulting from provisions of TRSA. In the first half of the year payments increased $12 billion—more than 90 percent of refunds are usually made by the end of the second quarter—compared with $28 billion in the second half.

Tax liabilities were lowered in 1978 by an increase of about $3 billion in income tax credits—the introduction of the residential energy tax credit and wider use of existing tax credits, such as the investment tax credit, the foreign tax credit, and the targeted jobs credit. The Energy Tax Act of 1978 introduced the residential energy credit retroactive to April 20, 1977. The amount of the residential energy credit claimed in 1978 was $577 million on $4.1 billion of energy conservation expenditures and $125 million of renewable energy source expenditures made from April 20, 1977 to December 31, 1978. However, the credit could not be claimed for any taxable year beginning before January 1, 1978; therefore, the entire amount of the tax credit claimed on energy-saving expenditures in 1977 was shown as reducing tax liabilities in the first quarter of 1978.

The Revenue Act of 1978 was enacted late in the year. Although most of its provisions became effective for tax years beginning after December 31, 1978, some, such as the provision relating to capital gains, became effective in the second half of 1978. The 1978 Act increased the amount of net capital gain that could be excluded from gross income from 50 to 60 percent, effective for taxable transactions occurring after October 31, 1978, and provided for a one-time exclusion from gross income of up to $100,000 of gain realized on the sale or exchange of a principal residence occurring after July 26, 1978, for taxpayers age 55 or over.

1979.—A sizable decline in liabilities from the fourth quarter of 1978 to the first quarter of 1979 was primarily due to provisions of the Revenue Act of 1978 that became effective January 1, 1979. A reduction in withholding rates, which also became effective on the same date, was much less than the reduction in liabilities and thus resulted in unusually large overwithholding for much of 1979. The excess of payments over liabilities averaged about $11 billion in the first three quarters of 1979.

The Revenue Act of 1978 reduced tax liabilities by widening the zero bracket amount, as well as most other tax brackets; by increasing the amount of the personal exemption from $750 to $1,000; and by expanding the earned income credit to cover taxpayers with income under $10,000 with a maximum credit of $500. (For 1978, the maximum income level eligible for the earned income credit was $8,000, with a maximum credit of $400.) Widening the zero bracket amount and raising the level of the personal exemption reduced taxable income about $68 billion and tax liabilites about $12 billion. The expansion of the earned income credit further reduced tax liabilities by about $0.2 billion.

Several actions partly offset this reduction in liabilities: the general tax credit was allowed to expire, itemized deductions for State and local gasoline taxes and for political contributions were repealed, and a portion of unemployment compensation was made taxable for the first time.

The Foreign Earned Income Act of 1978, also enacted late in 1978, primarily affected personal income tax liabilities for tax years after 1978. A $15,000 exemption of earned income provided by previous legislation was replaced either with the exclusion of up to $20,000 of earned income for residents in "hardship" areas or with an adjustment to gross income for an employee's expenses of living abroad. As a result, there was a small increase in liabilities. The amount of exemption, exclusion, of deduction claimed per return filed in 1979 was about $11,000 per return, down from $14,000 in 1978.

1980.—In the absence of major tax legislation affecting personal income tax liabilities, both liabilities and payments registered small increases in the first half of 1980, but for different reasons. The small increase in liabilities in the first half is traceable to the recession in 1980. However, the recession was very mild and lasted only from January to July. Unlike the declines in liabilities registered in past recessions, inflation and continued growth in nominal personal income, through the process of "bracket creep," resulted in a continued increase in liabilities. Although payments tend to exceed liabilities when the rate of income growth is decelerating or when income is declining because they are more responsive to income change, this was not the case during this period. Also, payments in the first half of 1980 slowed sharply due to the decline in net settlements resulting from unusually excessive overwithholding in 1979. In fact, payments declined slightly from the fourth quarter of 1979 to the first quarter of 1980.

The excess of liabilities over payments in the second half of 1980 was due to rising personal income and continued high inflation during the upswing of the business cycle.

1981.—Payments exceeded liabilities by substantial amounts throughout 1981 as new and previously enacted legislation reduced liabilities. The Windfall Profit Tax Act of 1980 broadened the dividend exclusion to include interest and increased the combined exclusion from $100 to $200 ($400 for joint returns). This provision was originally effective for tax years 1981 and 1982, but the Economic Recovery Tax Act of 1981 (ERTA) limited the exclusion to the 1981 tax year only.

The dividend and interest exclusion reduced personal income tax liabilities significantly for 1981. The number of returns with interest received is usually four times as large as the number of returns with dividends, and the amount of interest received per return is higher than the amount of dividends per return for most income classes except the very low and very high classes. By extending the exclusion to the combination of dividend and interest income and by making the maximum exclusion on a joint return unaffected by division of dividend or interest income between the spouses, this act reduced the liability for almost all returns with dividend or interest income.

Liabilities were reduced again in the second half of the year by various provisions of ERTA. ERTA, enacted in August 1981, provided some reduction in liabilities in the third quarter because certain provisions were retroactive. The maximum tax rate on long-term capital gains from sales or exchanges occurring after June 9, 1981, was reduced to 20 percent, so as not to deter sales or exchanges until 1982, when the maximum individual tax rate drops to 50 percent. Also, the once-in-a-lifetime exclusion of capital gain on the sale or exchange of a principal residence was increased from $100,000 to $125,000 effective July 20, 1981. A new tax credit was provided for research and experimentation expenditures made after June 30, 1981. The research tax credit was set at 25 percent of the excess of the qualified research expenses for the year over the average research expenses for the 3 immediately preceding years.

Other provisions of ERTA became effective in the fourth quarter. Individual income tax rates were reduced in that quarter (and in the third quarters of the following 2 years), beginning with a 1.25-percent cut in liabilities in 1981. Individuals were also granted a one-time exclusion of up to $1,000 for interest on All Savers Certificates issued after September 1981 and before 1983. As a result, the excess of payments over liabilities averaged $5.3 billion in 1981.

Technical Note

This note describes the methodology underlying the payment and liability series for Federal personal income taxes.

Payment series

Payments of Federal personal income taxes are usually made in three ways—payment through withholding, payment on declarations of estimated tax, and payment due at time of filing a tax return. Most wage earners make tax payments through employer withholdings. Self-employed persons and persons with income from nonwage sources make quarterly payments of estimated tax, net of any credit for overpayment of the previous year's tax liability. When the tax withheld and the quarterly payments of estimated tax, together with other prepayment credits, are insufficient to cover total tax liability, the amount due is paid at the time of filing a tax return. These payments, along with Federal Insurance Contributions Act (FICA) payments, are deposited in Federal tax and loan accounts at the Federal Reserve banks. When the Federal Reserve banks notify the Treasury of the deposits, personal tax collections are recorded by the Treasury. The time lag between payments by individuals and collections by the Treasury varies from 3 days for large employers to about 1 month for small ones.

The payment series is constructed from Treasury collections data by correcting for the time lag between payments and collections. First, quarterly estimates of combined collections of withheld income taxes and FICA payments are converted to a payments basis by adjusting for the time lag. Next, the FICA component is estimated by use of data on taxable wages supplied by the Social Security Administration and subtracted from the combined payments to arrive at the quarterly payment series of withheld income taxes before seasonal adjustment. The quarterly unadjusted series is summed to obtain annual totals. The seasonally adjusted series is derived by allocating these totals to quarters, largely in proportion to seasonally adjusted wages and salaries. (For the current-period estimates, when annual totals for withheld income taxes are not available, the quarterly series is estimated by multiplying wages and salaries by an effective tax rate derived from Treasury estimates prepared for the annual Federal budget.)

Treasury data for nonwithheld income tax collections and tax refunds are used, without adjustments, for the payment series because timing difference between payments and receipts by the Treasury are considered insignificant. Both nonwithheld income tax collections and refund payments are seasonally adjusted by allocating annual totals to quarters, with allowance for legislative tax changes. In the case of a permanent legislative tax change, the seasonally adjusted series moves to a new level in the first quarter of the calendar year and continues with a smooth pattern. In the case of a temporary change, the series reflects the underlying unadjusted data. For example, a one-time rebate is not allocated to each of the quarters, but is recorded in the quarter paid. The final income tax series is the sum of withheld and nonwithheld payments, less refunds. It is the major component of the personal tax and nontax series in the NIPA's which is published in NIPA tables 3.2 and 3.4.

Liability series

The personal income tax liability series is based on annual taxable income and tax liabilities published by the Internal Revenue Service (IRS) in *Statistics of Income, Individual Income Tax Returns* (*SOI*). This report provides tabulations of information as reported on individual income tax returns filed during a given calendar year based on a stratified systematic sample of returns.

There are several differences between the *SOI* liability series and the BEA liability series presented in this article. The *SOI* series is annual and exclusive of liability changes occurring after initial returns are filed; the BEA series is both annual and quarterly and inclusive of liability changes that result from audits, amended returns, and other additional assessments. In addition, the BEA liability series includes fiduciary tax liability, but *SOI* series does not, and the BEA liability series excludes all liabilities associated with social security tax, but *SOI* series includes the self-employment social security tax and social security taxes on tip income.

The method for generating the quarterly BEA liability series is an extension of the method used by BEA to reconcile annual personal income with annual *SOI* taxable income. (See the December 1976 SURVEY for a detailed discussion of this reconciliation.) First, a quarterly BEA adjusted gross income (BEA-derived AGI) series is constructed from quarterly personal income by adjusting for conceptual and accounting differences and adding in the portion of *SOI* adjusted gross income (SOI-AGI) not included in personal income. The quarterly BEA-derived AGI series is used to allocate SOI–AGI annual totals to quarters. Next, quarterly estimates of deductions and exemptions are subtracted and quarterly estimates of negative taxable income and the unused zero bracket amount are added to the quarterly SOI–AGI series to derive quarterly taxable income. The quarterly tax liability is estimated by use of an estimated elasticity of tax liability with respect to taxable income. The final liability series is derived by adjusting the quarterly tax liability series for tax credits (including the credit for excess FICA tax withheld), fiduciary income tax, additional tax for tax preferences, recapture and penalty taxes, audit assessments, and undercoverage of *SOI* data.

The methodology described above was used to estimate the BEA liability series through 1980. Because *SOI* data are not available for 1981, the liability estimate for 1981 is derived by summing withheld and nonwithheld taxes by liability year based on unpublished Treasury data and subtracting refunds lagged by 1 year. Withheld taxes are almost entirely collected in the liability year, while nonwithheld taxes are collected in the liability year as well as in subsequent years. Refunds mostly represent excess payments for the previous year's liability. The calendar year liability is allocated to quarters by an estimated elasticity of tax liability with respect to personal income.